Air Quality Permitting
Technical Analysis

July 10, 2003

Tier I Operating Permit No. T1-020015

AIRS Facility No. 001-00026

Chevron Pipe Line Company / Northwest Terminalling Company, Boise

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FINAL AMENDED TIER I OPERATING PERMIT

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ACRONYMS, UNITS, AND CHEMICAL NOMENCLATURE

acfm	actual cubic feet per minute
AIRS	Aerometric Information Retrieval System
AQCR	Air Quality Control Region
CFR	Code of Federal Regulations
CO	carbon monoxide
DEQ	Department of Environmental Quality
dscf	dry standard cubic feet
EPA	U.S. Environmental Protection Agency
gr	grain (1 lb = 7,000 grains)
IDAPA	a numbering designation for all administrative rules in Idaho promulgated in accordance with the Idaho Administrative Procedures Act
km	kilometer
lb/hr	pound per hour
NSPS	New Source Performance Standards
PTC	permit to construct
scfm	standard cubic feet per minute
SIC	Standard Industrial Classification
T/yr	tons per year
VOC	volatile organic compound

PUBLIC COMMENT / AFFECTED STATES / EPA REVIEW SUMMARY

A 30-day public comment period and affected states review for the Chevron Pipe Line Co. (CPL) draft permit to construct (PTC) was held in accordance with IDAPA 58.01.01 sections 209.05.c, 364, and 365, *Rules for the Control of Air Pollution in Idaho*. The comment period closed on December 6, 2002. No public comments were received.

IDAPA 58.01.01.008.01 defines *affected states* as: *"All states: whose air quality may be affected by the emissions of the Tier I source and that are contiguous to Idaho; or that are within 50 miles of the Tier I source."*

A review of the site location information included in the permit application indicates that the facility is located within 50 miles of a state border. Therefore, the state of Oregon was provided with an opportunity to comment on the draft PTC. The comment period closed on December 6, 2002. No comments were received. The PTC was issued on March 17, 2003.

1. PURPOSE

The purpose of this memorandum is to explain the legal and factual basis for this final Tier I operating permit in accordance with IDAPA 58.01.01.362.

The DEQ has reviewed the information provided by Chevron Pipe Line Co. and Northwest Terminalling Co. regarding the operation of the bulk petroleum terminal located in Boise. This information was submitted based on the requirements to submit a Tier I operating permit application in accordance with IDAPA 58.01.01.300.

2. SUMMARY OF EVENTS

On May 2, 2003, DEQ received a Tier I operating permit administrative amendment application from Chevron Pipe Line Co. for their Boise bulk petroleum distribution facility. This permit application is to incorporate the requirements of PTC No. P-020015 into the facility's Tier I operating permit. The PTC was issued in accordance with IDAPA 58.01.01.209.05.c. In accordance with IDAPA 58.01.01.209.05.c and IDAPA 58.01.01.381.01.e this PTC can be incorporated into the Tier I operating permit as an administrative amendment.

3. BASIS OF THE ANALYSIS

The following documents were relied upon in preparing this memorandum and the Tier I operating permit:

- Tier I operating permit application, received May 2, 2003;
- Compilation of Air Pollutant Emission Factors, AP-42, Fifth Edition, January 1995, Office of Air Quality Planning and Standards, EPA
- Guidance developed by the EPA and DEQ
- Title V permits issued by other jurisdictions; and
- Permit to Construct No. P-020015

4. FACILITY DESCRIPTION

General Process Description

This facility is a petroleum distribution terminal located in Boise. Refined petroleum products are transported to the facility via an underground pipe line system where they are either stored or transferred to another terminal. The equipment at the facility includes petroleum storage tanks, additive storage tanks, a vapor destruction system, and a soil vapor extraction system.

Facility Classification

This facility is a major facility as defined by IDAPA 58.01.01.008.10 because the facility emits or has the potential to emit VOCs in amounts greater than or equal to 100 T/yr. This facility is a major facility as defined by IDAPA 58.01.01.006.55. This facility is a designated facility as defined by IDAPA 58.01.01.006.27. This facility is subject to federal NSPS requirements in accordance with 40 CFR 60 Subpart XX. The SIC codes defining the facility are 4613, refined petroleum pipe lines, and 5171, petroleum bulk stations and terminals. The AIRS facility classification is A.

Area Classification

The facility is located in Ada County, which is located in AQCR 64. This area is unclassifiable for all federal and state criteria pollutants. There are not any Class I areas within 10 km of the facility.

Permitting History

December 19, 2000	DEQ issued Chevron Pipe Line Co. and Northwest Terminalling Co. a Tier I operating permit under AIRS Facility No. 001-00026
March 17, 2003	DEQ issued Chevron Pipe Line Co. and Northwest Terminalling Co. PTC No. P-020015 for their on-site soil vapor extraction system.

Emissions Description

This project does not change the permitted emissions from this facility.

5. REGULATORY ANALYSIS

On-Site Soil Vapor Extraction System

5.1 Emissions Unit Description

As part of a groundwater remediation project, the bioventing system removes spilled hydrocarbon product that is in the soil and floating on the groundwater under the plant site. The bioventing system consists of 40 wells connected to two blowers. The blowers deliver up to 1,000 scfm of hydrocarbon-contaminated air from the wells to the influent of a vapor incinerator.

After the vapor incinerator is brought up to the minimum operating temperature of 1200°F using natural gas and ambient air, the bioventing vapors are admitted to the incinerator. The hydrocarbons in this influent stream provide the necessary additional heat to keep the operating temperature in the desired range. If the influent stream does not have a high enough hydrocarbon content to generate sufficient heat, it is automatically enriched with natural gas. On the other hand, if the hydrocarbon content is too high, the influent stream is diluted with ambient air. The stack temperature is used as the process control parameter to regulate the amount of enrichment or dilution.

Hydrocarbon emissions (including benzene) are controlled by a McGill vapor incinerator with a manufacturer guaranteed control efficiency of at least 95% at 1200°F.

5.2 Permit Condition 3.1 – Benzene Emissions

Permit Condition 3.1 limits the benzene emissions to 0.054 lb/hr and 0.24 T/yr. This emissions rate limit was not changed from the previous Tier I operating permit.

5.3 Compliance Demonstration

The facility will show compliance with the emissions rate limit by complying with Permit Conditions 3.3, 3.4, and 3.6.

5.4 Permit Condition 3.2 – Particulate Matter Emissions

Particulate matter emissions from the SVE system stack are limited to 0.015 gr/dscf in accordance with IDAPA 58.01.01.677.

5.5 Compliance Demonstration

The facility will show compliance with the particulate matter emissions rate limit by complying with Permit Conditions 3.3, 3.4, and 3.6.

5.6 Permit Condition 3.3 – Operations and Maintenance Manual Requirements

The permittee is required to develop and maintain an operations and maintenance manual for the vapor incinerator. This requirement will ensure that the incinerator is operated in a manner consistent with its design.

5.7 Permit Condition 3.4 – Operating Temperature

Permit Condition 3.4 requires that the vapor incinerator be operated at a minimum of 1200°F. The manufacturers guaranteed vapor destruction efficiency is 95% at temperatures above 1200°F.

5.8 Compliance Demonstration

The facility will show compliance with the minimum temperature requirements by installing, operating, and maintaining an automatic shutoff system for the bioventing feed line in accordance with Permit Condition 3.6.

5.9 Permit Condition 3.5 – Automatic Shutoff for Pilot Burner

Permit Condition 3.5 requires the facility to install, operate, and maintain an automatic shutoff for the bioventing feed line during times in the event of a pilot burner failure.

5.11 Permit Condition 3.6 – Automatic Shutoff for Operating Temperature

Permit Condition 3.6 requires the facility to install, operate, and maintain an automatic shutoff for the bioventing feed line in the event that the operating temperature drops below 1200°F.

5.12 Permit Conditions 3.7 and 3.8 – Gas Chromatographic Analysis

Permit Condition 3.7 requires the facility to take samples of the influent stream and analyze them using gas chromatography. Permit Condition 3.8 requires the facility to keep records of the BTEX concentrations and to calculate the mass flow rate of benzene into the vapor incinerator. The permittee is also required to calculate the benzene emissions from the incinerator using the incinerator's manufacturers control efficiency.

5.13 Permit Condition 3.9 – Vapor Incinerator Bypass

Permit Condition 3.9 requires the permittee to route vapors through the vapor incinerator until the inlet concentration is low enough to meet the exemption requirements in IDAPA 58.01.01.220-223. In order to remove the vapor incinerator the permittee must first obtain DEQ concurrence that the project is exempt from PTC requirements.

6. INSIGNIFICANT ACTIVITIES

No insignificant activities were added. The previous insignificant activities remain the same.

7. AIRS DATABASE

There are no changes in emissions limits as a result of this permit amendment. Therefore, the AIRS database does not need to be updated.

8. REGISTRATION FEES

This facility is a major facility as defined by IDAPA 58.01.01.008.10; therefore, registration and registration fees in accordance with IDAPA 58.01.01.387 apply.

9. RECOMMENDATION

Based on the Tier I application and review of state rules and federal regulation, staff recommends that DEQ issue final Tier I operating Permit No. T1-020015 to Chevron Pipe Line Co. and Northwest Terminalling Co. for their bulk petroleum distribution facility in Boise.

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